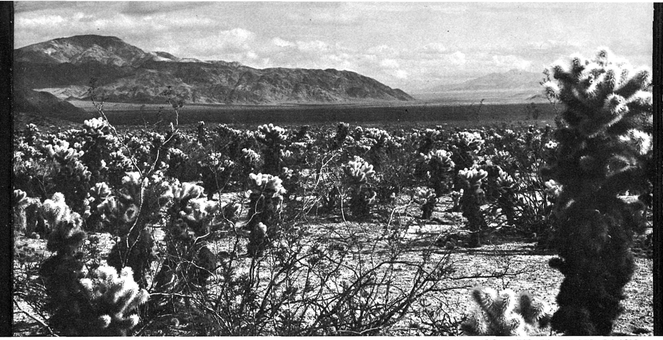
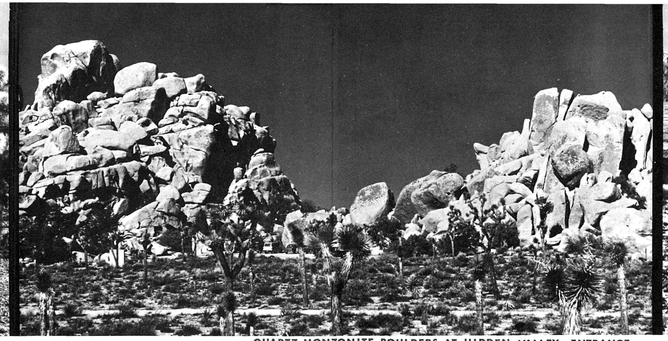
joshua tree

NATIONAL MONUMENT • CALIFORNIA

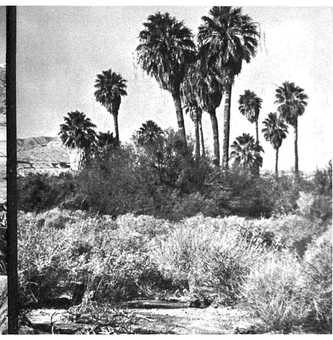


CHOLLA GARDEN IN PINTO BASIN



QUARTZ MONZONITE BOULDERS AT HIDDEN VALLEY ENTRANCE

SANTA ROSA MOUNTAINS FROM SALTON VIEW



Located in beautiful high desert country, Joshua Tree National Monument preserves a typical California desert where plants and animals have acquired specialized habits in order to survive; where the sand may suddenly be covered with wildflowers; where the oases shelter a varied bird population; and where grow colorful cactuses, the spidery ocotillo, and the picturesque Joshua-tree—very symbols of the desert.

The altitude of this monument ranges from 1,000 feet in the eastern end to nearly 6,000 feet in the Little San Bernardino Mountains. The weather is pleasant most of the year and particularly on winter days. Most people visit the monument from October through May. In summer, while it is hot at lower elevations, it is relatively cool at higher altitudes. The average annual rainfall is less than 5 inches, but there are wide departures from this average.

Desert Plants

Joshua Tree National Monument is preserved primarily because of the notable variety and richness of its desert vegetation. One reason for this diversity is the location of the monument—on the border between the Mojave and Colorado Deserts.

Adaptation is the key to survival on the desert. Plants must be able to go for long periods without water and to make the most of brief but often violent showers. Some, such as the creosotebush (*Larrea divaricata*), have their roots spread out very close to the surface to catch the moisture before it evaporates. The roots of some other plants penetrate deep into the earth, enabling these plants to tap underground water supplies. Mesquite (*Prosopis juliflora*) roots often reach depths of 50 to 60 feet.

Many ways of preventing water loss through leaves have been developed in desert plants. Creosotebush has leaves covered with a heavy waxy coating. Ocotillo (*Fouquieria splendens*) loses its leaves during each period of dryness only to produce new ones after each good rain. Cactuses have no leaves at all; their green stems have taken over the function of food production.

Although it is seldom that careful observation will not reveal something in bloom, the desert is at its best in the spring following a wet winter. Then, even the rocky hillsides may be covered with brilliant patches of color. Wildflower displays are best observed during April and May, although flowering starts in March at the lower elevations and continues through June at higher altitudes.

Joshua-Trees

One of the most spectacular botanical features of our southwestern deserts is the Joshua-tree (*Yucca brevifolia*). It attains heights to 40 feet and bears cream-white blossoms in clusters 8 to 14 inches long at the ends of heavy, angular, erratic branches. The best displays come in March and April, but blooming does not occur every year. It is believed that the Mormons gave this giant yucca the name "Joshua-tree," or "praying plant," because of the up-stretched "arms."

Found mostly above 3,000 feet, in the higher central part of the monument, the Joshua-tree is often confused with the Mohave yucca (*Yucca schidigera*), another large member of the lily family. While they can be found growing together, the Mohave yucca is more common at lower elevations. You can tell the difference by the leaves. Those of the Joshua-tree are about 10 inches long with very fine teeth along their margins. The much longer leaves of the Mohave yucca are easily distinguished by the abundance of light-colored fibers along their edges.

Palms and Oases

In sharp contrast to the surrounding desert, an oasis containing native California fan palms (*Washingtonia filifera*) provides a shady haven for man as well as for wildlife. Even more important, the presence of the palms indicates that water can easily be obtained. When Col. Henry Washington, who conducted a Government survey party through this area in 1855, first came upon the oasis at Twentynine Palms, he found ample evidence that Indians had lived there. In the years that followed, the flowing spring in this oasis was the main source of water for the early miners and cattlemen.

Of the other oases in the monument, the largest is found in Lost Palms Canyon. Containing more than 100 palms, it is 4 miles by trail from the oasis at Cottonwood Spring. The splendid group at Fortynine Palms Canyon, just inside the northern boundary, is reached by a 1½-mile trail.

Geology

The topography of Joshua Tree National Monument consists mainly of a series of mountains of moderate relief separated by nearly flat valleys, the results of shifting of segments of the earth's crust along great fractures called faults. Weathering and erosion have combined to wear down the mountains and fill the intervening valleys,

Rocks of several geologic eras are found in the area, but two types predominate—Pinto gneiss (pronounced "nice"), a metamorphosed rock, and quartz monzonite, a rock similar to granite. The dark-colored Pinto gneiss makes up the bulk of the mountains in the monument. More than 500 million years old, the gneiss was formed under great pressures and high temperatures which altered (or metamorphosed) the pre-existing rocks into their present form. Pinto gneiss is most readily identified by thin bands of contrasting color exhibited in most exposures.

Scattered over a large part of the monument, particularly in the higher central part, are hundreds of outcrops of massive, light-gray or pinkish quartz monzonite. These rocks solidified, possibly 150 million years ago, when molten rock, called magma, intruded into the older Pinto gneiss. As the magma slowly cooled and crystallized, well below the surface, it did so unevenly, causing many fractures to form. Later, molten rock of slightly different composition was forced into some of the fractures in the quartz monzonite. These bands, usually of contrasting color, are called dikes.

Subsequent gradual uplift of the area now occupied by the monument speeded up weathering and erosion of the rocks. Gradually the quartz monzonite was exposed as the overlying Pinto gneiss was carried away and deposited in the valleys between the mountains. The contact between the two kinds of rock can best be seen on the mountains east of White Tank Campground or on the west side of Ryan Mountain.

Early Human Habitation

The presence of a large number of campsites along an ancient river terrace in the Pinto Basin provides evidence that this region was once inhabited by primitive man. Crudely fashioned stone weapon points, distinctive in shape, were discovered with other stone artifacts, lying along the banks of the old streambed.

The stream that flowed through the Pinto Basin after the last ice age dwindled as the climate became progressively drier, possibly leaving the basin as it is now, without surface water to attract or sustain a primitive culture.

More recent Indians lived in the monument area, mainly around waterholes and springs, until it became settled in the early 1900's. When the white man first came, he found two groups of Indians living in the region—the Serrano and the Chemehuevi. Both spoke Shoshone dialects and wandered about in small bands, moving from place to place in search of food. They had mastered the difficult art of survival in the desert. Their campsites, with grinding holes, metates, manos, pottery, and other artifacts, have been found throughout the monument,

The first pioneers, who arrived before the turn of the century, were prospectors in search of gold. Prospect holes and old mine shafts and mill sites, in evidence on many hillsides, attest to their activity. They were followed by cattlemen, who came looking for grass. Small dams made by cattlemen to catch rainwater for their herds are occasionally found among the boulders. These impoundments, which they called "tanks," are the sources of place names such as White Tank, Squaw Tank, and Ivanpah Tank.

Salton View

The outstanding scenic point in the monument is Salton View. From an elevation of 5,185 feet, an unforgettable sweep of valley, mountain, and desert is combined in one magnificent panorama from the Salton Sea, 241 feet below sea level, to the summits of San Jacinto and San Gorgonio, over 10,000 feet high.

Wildlife

The many kinds of wildlife and the means by which they survive in this desert area are a source of surprise to most visitors. In order to conserve body moisture, most of the monument's mammals are nocturnal, coming out only at night or late in the afternoon. However, the little antelope ground squirrel is seen scurrying over the sands, with his white tail over his back, even during the heat of the hottest days. Often, in the evening, campers catch sight of a coyote at the outskirts of the campgrounds.

The kangaroo rat and some of the other rodents have become so well adapted to life on the desert that they can go through their entire lives without ever taking a drink of water. Within their own bodies, they can manufacture water out of the elements found in their staple food—dry seeds. Easily recognized by their long, tufted tails, much like an artist's paintbrush, kangaroo rats are often observed around the campfires at night.

The largest animals in the monument are the desert bighorn (sheep). Shy and elusive, they avoid roads and other areas of high visitor concentration. When seen, they are an impressive sight—especially the rams with their massive, curled horns.

The animal most commonly observed is the side-blotched lizard (little brown uta), one of the many lizards in the monument. The small reptile is seen darting about the desert all year except on the coldest winter days. The chuckwalla, one of the largest lizards of the area, basks on the rocks when the sun is not too hot.

Many of the 230 species of birds that have been sighted in the monument are migrants or casual visitors. However, a number are familiar residents, especially around the oases where food and water are comparatively plentiful.

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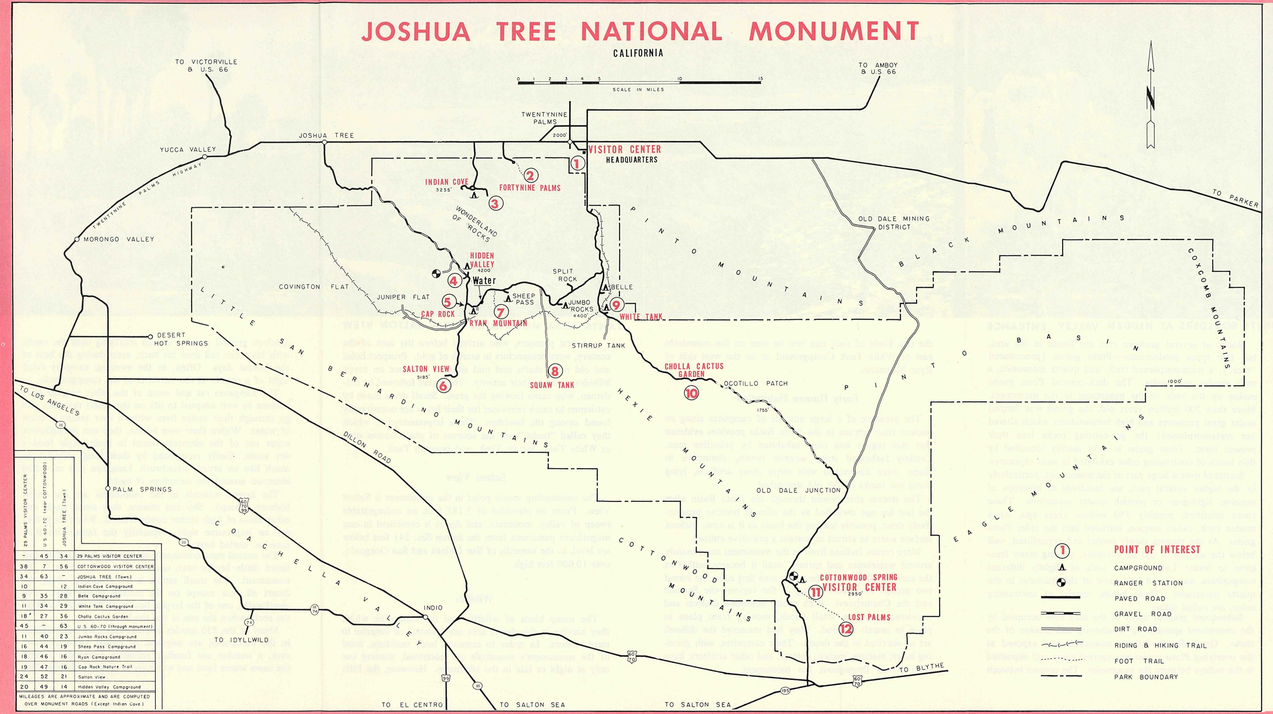

TO INDIO (VIA COTTONWOOD)	TO JOSHUA TREE (Town)		
–	45	34	29 PALMS VISITOR CENTER
38	7	56	COTTONWOOD VISITOR CENTER
34	63	–	JOSHUA TREE (Town)
10	–	12	Indian Cove Campground
9	35	28	Belle Campground
11	34	29	White Tank Campground
18*	27	36	Cholla Cactus Garden
45	–	63	U.S. 60-70 (through monument)
11	40	23	Jumbo Rocks Campground
16	44	19	Sheep Pass Campground
18	46	16	Ryan Campground
19	47	16	Cap Rock Nature Trail
24	52	21	Salton view
20	49	14	Hidden Valley Campground

MILEAGES ARE APPROXIMATE AND ARE COMPUTED OVER MONUMENT ROADS (Except Indian Cove)

Points of Interest

See map for location

1. OASIS VISITOR CENTER. Located at monument headquarters, it offers museum exhibits, botanical displays, and a self-guiding nature trail through historic Twentynine Palms Oasis.

2. FORTYNINE PALMS OASIS. Take the 1½-mile trail to this oasis, where water-loving plants thrive around shaded pools.

3. RATTLESNAKE CANYON. This canyon is at the east end of Indian Cove. Notice the potholes worn in the rocks a half mile up the canyon. The water sometimes standing in them is not fit to drink.

4. HIDDEN VALLEY. A trail system winding between massive boulders leads you through this legendary cattle rustlers' hideout.

5. CAP ROCK NATURE TRAIL. You will be able to observe and learn about many of the plants and animals of the Joshua-tree forest and some of the geologic features of the monument.

6. SALTON VIEW. Here you get an outstanding panorama of the Coachella Valley from the Salton Sea to the surrounding mountains.

7. RYAN MOUNTAIN. The 2-mile trail to the summit has several lookout points with fine views of Queen, Lost Horse, Hidden, and Pleasant Valleys.

8. SQUAW TANK. This small dam was built by cattlemen to collect water for their stock. Notice the grinding stones in the rocks, indicating previous Indian campsites.

9. WHITE TANK NATURE TRAIL. A short hike takes you to Arch Rock. White and Grand Tanks are hidden among the huge boulders.

10. CHOLLA CACTUS GARDEN. A self-guiding nature trail describes some of the plants and animals of the Colorado Desert.

11. COTTONWOOD SPRING. Noted for its birdlife, this palm oasis is easily accessible by road. A small visitor center is located near the campground.

12. LOST PALMS OASIS. A 4-mile trail leads you to the largest group of palms in the monument.

How to Reach the Monument

The monument is in the southern California desert 140 miles east of Los Angeles. From the west it is approached on U.S. 60, 70, and 99 to a point 15 miles east of Banning, thence to the towns of Joshua Tree or Twentynine Palms and the north entrances.

It may be reached from U.S. 66 by turning south at Amboy and following the paved road 50 miles to Twentynine Palms.

The south, or Cottonwood Spring, entrance is 25 miles east of Indio, Calif., via U.S. 60-70.

Main roads in the monument are of a good desert type, most of them having oiled surfaces. Water should be carried, especially during summer.

Tips for a Trouble-Free Visit

Park regulations are designed for your safety as well as for the protection of natural features. Complete regulations may be seen at the office of the superintendent.

Vehicles must not be driven off established roads and parking areas. The maximum speed limit is 45 m.p.h.

Preserving monument features. No plant or animal life, rocks, deadwood, artifacts, or other natural or historic objects may be gathered, defaced, disturbed, or removed from the monument.

Hunting or shooting is not permitted in this wildlife sanctuary.

Camping and picnicking are allowed only in designated areas. Bring your own firewood, because all vegetation—even that which is dead and down—is protected. Open fires must be confined to established campground fire sites. Permission to build fires outside of designated areas must be obtained from the superintendent.

Pets must be under physical control at all times. They are not allowed on trails or in public buildings.

When in doubt about what you may do, consult a park ranger. He is here to assist you.

Be careful with fire!

Accommodations and Services

Seven free campgrounds with tables, fireplaces, and toilets have been developed. Campers must bring their own water and firewood and should be prepared for wide fluctuations in temperature.

There are no motels, restaurants, or stores in the monument, but these services are provided in nearby towns.

Conducted walks, trips, and campfire talks are scheduled principally during the winter. Specific information about these activities is posted at campground bulletin boards and ranger stations.

Administration

JOSHUA TREE NATIONAL MONUMENT, established on August 10, 1936, and containing about 870 square miles, is administered by the National Park Service, U.S. Department of the Interior.

The National Park System, of which this area is a unit, is dedicated to conserving the scenic, scientific, and historic heritage of the United States for the benefit and enjoyment of its people.

The development of this area is part of MISSION 66, a 10-year program to develop and staff the areas of the National Park System so that they can be used and enjoyed by both present and future generations.

A superintendent, whose address is Twentynine Palms, Calif., 92277, is in immediate charge of the area.

America's Natural Resources

Created in 1849, the Department of the Interior—America's Department of Natural Resources—is concerned with the management, conservation, and development of the Nation's water, wildlife, mineral, forest, and park and recreational resources. It also has major responsibilities for Indian and territorial affairs.

As the Nation's principal conservation agency, the Department works to assure that nonrenewable resources are developed and used wisely, that park and recreational resources are conserved for the future, and that renewable resources make their full contribution to the progress, prosperity, and security of the United States—now and in the future.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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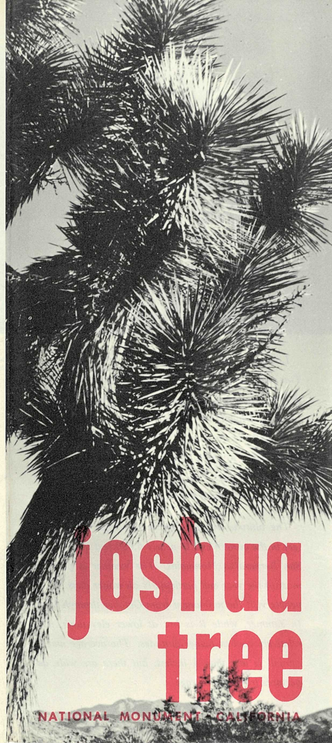

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